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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
TORRES, JUAN A	

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/926,089	ATARASHI ET AL.	
	Examiner	Art Unit	
	Juan A. Torres	2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *Amendment - After Non-Final Re05/02/2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6,9,15-25,31,36 and 37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,9,15-25,31,36 and 37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 May 2005* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11-19-04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

The drawings are objected to because:

a) FIG. 3 shows two arrows from block 101-1 to block 140, one arrow from 101-2 to block 140 and no arrow from 101-3 to block 140. It is suggested to be changed to one arrow from block 101-1 to block 140, one arrow from 101-2 to block 140 and one arrow from 101-3 to block 140.

b) FIG. 6 shows two arrows from block 101-1 to block 140, one arrow from 101-2 to block 140 and no arrow from 101-3 to block 140. It is suggested to be changed to one arrows from block 101-1 to block 140, one arrow from 101-2 to block 140 and one arrow from 101-3 to block 140.

c) In Figures 15 and 16 the recitation "implement cannel" is improper; it is suggested to be changed to "implement channel".

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering

of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Figures 12, 13,15, 16, 18 and 19 should be designated by a legend such as -- Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities: As indicated in the previous Office Action, in page 64 line 10 of the disclosure, the recitation "Fig. 29" is improper; it is suggested to be changed to "Fig. 28".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1,5, 6, 9, 21, 22, 24, 25 and 37 are rejected under 35 U.S.C. 102(e) as being anticipated by Bejjani (US 6430166).

As per claim 1 Bejjani discloses a path search method for detecting respective timings of path components included a signal received via a multipath propagation path, the method comprising the steps of a first path search step detecting respective timings of path components using pilot symbols of a known phase included in the signal received via the multipath propagation path (figure 3 block 3a column 2 line 7-13 and column 4 lines 1-11); and a second path search step for detecting respective timings of path components using information symbols derived from a signal demodulated according to the timings detected in the first path search step and the pilot symbols of a known phase (figure 3 block 3b column 2 line 7-13 and column 4 lines 1-11).

As per claim 5 Bejjani discloses claim 1. Bejjani also discloses that the signal received via the multipath propagation path is transmitted in accordance with a multicarrier code division multiplex system (column 2 lines 48-61).

As per claim 6 Bejjani discloses a first path search step detecting respective timings of path components using pilot symbols of a known phase in the signal received via the multipath propagation path (Figure 3 block 3a column 2 line 7-13 and column 4

lines 1-11); a first channel estimation method for estimating channel variation using pilot symbols by detecting respective timing of path components included in a signal received via multipath propagation path comprising a first channel estimation step estimating the channel variation using the pilot symbols of the known phase after first path search step (figure 1 block 4, figure 3 block 4a); a second path search step detecting respective timings of path components using the timings detected in the first path search steps information symbols derived from a signal demodulated according to the first channel estimation steps and the pilot symbols of the known phase (figure 3 block 3b column 2 line 7-13 and column 4 lines 1-11); and a channel estimation step estimating the channel variation using the information symbols derived from the signal demodulated according to the first channel estimation steps and the pilot symbols of the known phase (figure 1 block 4, figure 3 block 4b).

As per claim 9 Bejjani discloses that the channel estimation step implements channel estimation by combining the pilot symbols of a known phase and pilot symbols included in other packets transmitted from the same transmission source (Figure 3 block 3a column 2 line 7-13 and column 4 lines 1-11).

As per claim 25 Bejjani discloses a communication device for implementing a path search that detects respective timings of path components included in a signal received via a multipath propagation path comprising a first path search part configured to detect timings of path components using pilot symbols of a known phase included in the signal received via the multipath propagation path (figure 3 block 3a column 2 line 7-13 and column 4 lines 1-11); and a second path search part configured to detect

respective timings of path components using information symbols derived from a signal demodulated according to the timings detected in the first path search step and the pilot symbols of the known phase (figure 3 block 3b column 2 line 7-13 and column 4 lines 1-11).

As per claim 21 Bejjani discloses claim 25. Bejjani also discloses a first channel estimation part configured to estimate a channel variation after a first path search by the first path search part (figure 1 block 4, figure 3 block 4a); and a second channel estimation part configured to estimate a channel variation using an information symbols derived from a signal demodulated according to the timings detected in the first channel estimation part and the pilot symbols of the known phase, according to the timings detected in a second path search by the second path search part (figure 1 block 4, figure 3 block 4b).

As per claim 22 Bejjani discloses claim 21. Bejjani also discloses that the first channel estimation means includes a pilot symbol acquiring part configured to acquire the pilot symbols of the known phase included in a received packet (figure 3 block 3a column 2 line 7-13 and column 4 lines 1-11); and a channel estimation part configured to implement a channel estimation using the acquired pilot symbols (figure 1 block 4, figure 3 block 4a).

As per claim 24 Bejjani discloses claim 22. Bejjani inherently discloses a subcarrier acquiring part configured to acquire a plurality of subcarriers included in the reception signal (the subcarrier is inherently in the CDMA system) and a pilot symbol acquiring part configured to acquire a plurality of pilot symbols of a known phase

included in the plurality of subcarriers (figure 3 block 3a column 2 line 7-13 and column 4 lines 1-11); the first and second channel estimation parts implement a channel estimation for each subcarrier using the plurality of pilot symbols (figure 1 block 4, figure 3 blocks 4a and 4b).

As per claim 37 Bejjani discloses claim 6. Bejjani also discloses that the first channel estimation step includes acquiring the pilot symbols of the known phase included in a received packet (figure 3 block 3a column 2 line 7-13 and column 4 lines 1-11); and implementing a first channel estimation using the acquired pilot symbols (figure 1 block 4, figure 3 blocks 4a and 4b).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bejjani (US 6430166) as applied to claim 1 above, and further in view of Sutton (US 6721299).

As per claim 2 Bejjani discloses claim 1. Bejjani doesn't specifically disclose despreading the signal received via the multipath propagation path according to the timings detected in the first path search step; cophasing and summing the information

symbols despreaded according to respective path timings in a symbol by symbol manner; demodulating and implementing data decision of the cophased and summed respective information symbols; and remodulating the data decision signal. Sutton discloses despreading the signal received via the multipath propagation path according to the timings detected in the first path search step (figure 1 block 6 column 3 line 47 to column 4 line 19); cophasing and summing the information symbols despreaded according to respective path timings in a symbol by symbol manner (figure 1 block 8 and 10 column 4 line 11-33); demodulating and implementing data decision of the cophased and summed respective information symbols (figure 5 block 88 column 7 line 55-60); and remodulating the data decision signal (figure 1 block 18 column 5 line 2-7). Bejjani and Sutton teachings are analogous art because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skill in the art to integrate the path search structure disclosed by Sutton with the enhanced path searcher disclosed by Bejjani. The suggestion/motivation for doing so would have been to minimize the total time for acquisition (Sutton column 2 lines 8-12). Therefore, it would have been obvious to combine Bejjani and Sutton to obtain the invention as specified in claim 2.

As per claim 3 Bejjani and Sutton disclose claim 2. Sutton also discloses that information symbols satisfying a predetermined condition of the information symbols derived from the signal demodulated according to the timings detected in the searcher are selected and fed back (figure 1 block 16 column 4 line 66 to column 5 line 7). Bejjani and Sutton teachings are analogous art because they are from the same field of

endeavor. At the time of the invention it would have been obvious to a person of ordinary skill in the art to integrate the path search structure disclosed by Sutton with the enhanced path searcher disclosed by Bejjani. The suggestion/motivation for doing so would have been to minimize the total time for acquisition (Sutton column 2 lines 8-12). Therefore, it would have been obvious to combine Bejjani and Sutton to obtain the invention as specified in claim 3.

As per claim 4 Bejjani discloses claim 1. Bejjani doesn't specifically disclose that the second path search step is repeated until a predetermined condition is satisfied. Sutton discloses that the path search step is repeated until a predetermined condition is satisfied (figure 1 block 16 column 4 line 66 to column 5 line 7, figure 4 block 48 column 6 lines 10-18 and figure 5 block 90). Bejjani and Sutton teachings are analogous art because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skill in the art to integrate the path search structure disclosed by Sutton with the enhanced path searcher disclosed by Bejjani. The suggestion/motivation for doing so would have been to minimize the total time for acquisition (Sutton column 2 lines 8-12). Therefore, it would have been obvious to combine Bejjani and Sutton to obtain the invention as specified in claim 4.

Claims 15-18 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bejjani (US 6430166) as applied to claim 6 above, and further in view of Papasakellariou (US 6700919).

As per claim 15 Bejjani discloses claim 6. Bejjani doesn't disclose compensating for the channel variation in accordance with a result of a first channel estimation of the

first channel estimation and generating tentative data decision information symbols from the compensated information symbols; and generating information symbols devoid of modulation components the tentative data decision information symbols and implementing a second channel estimation of the second channel estimation step using the pilot symbols and information symbols. Papasakellariou discloses compensating for the channel variation in accordance with a result of a first channel estimation of the first channel estimation and generating tentative data decision information symbols from the compensated information symbols (figure 4 block 54 column 9 lines 40-43); and generating information symbols devoid of modulation components the tentative data decision information symbols and implementing a second channel estimation of the second channel estimation step using the pilot symbols and information symbols (figure 4 block 56 column 9 lines 61-66). Bejjani and Papasakellariou teachings are analogous art because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skill in the art to integrate the channel estimation for communication system using weighted estimates based on pilot data and information data disclosed by Papasakellariou with the enhanced path searcher disclosed by Bejjani. The suggestion/motivation for doing so would have been to improve the accuracy of the channel estimate using both pilot data and information data (Papasakellariou column 1 line 66 to column 2 line 17). Therefore, it would have been obvious to combine Bejjani and Papasakellariou to obtain the invention as specified in claim 15.

As per claim 16 Bejjani and Papasakellariou discloses claim 15. Papasakellariou also discloses that generating the tentative data decision information symbol includes a weighting process for weighting the tentative data decision information symbols according to a reliability (figure 4 column 13 lines 49-61 and column 15 lines 21-42). Bejjani and Papasakellariou teachings are analogous art because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skill in the art to integrate the channel estimation for communication system using weighted estimates based on pilot data and information data disclosed by Papasakellariou with the enhanced path searcher disclosed by Bejjani. The suggestion/motivation for doing so would have been to improve the accuracy of the channel estimate using both pilot data and information data (Papasakellariou column 1 line 66 to column 2 line 17). Therefore, it would have been obvious to combine Bejjani and Papasakellariou to obtain the invention as specified in claim 16.

As per claim 17 Bejjani and Papasakellariou discloses claim 15. Papasakellariou discloses that generating the tentative data decision information symbol includes an error correction process for error correction decoding the tentative data decision information symbols implementing an error correction encoding again (figure 2 column 6 lines 13-53). Bejjani and Papasakellariou teachings are analogous art because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skill in the art to integrate the channel estimation for communication system using weighted estimates based on pilot data and information data disclosed by Papasakellariou with the enhanced path searcher disclosed by

Bejjani. The suggestion/motivation for doing so would have been to improve the accuracy of the channel estimate using both pilot data and information data (Papasakellariou column 1 line 66 to column 2 line 17). Therefore, it would have been obvious to combine Bejjani and Papasakellariou to obtain the invention as specified in claim 17.

As per claim 18 Bejjani and Papasakellariou discloses claim 15. Papasakellariou discloses generating the tentative data decision information symbol includes a weighting process for weighting the tentative data decision information symbols after the error correction encoding according to a reliability (figure 4 column 13 lines 49-61 and column 15 lines 21-42). Bejjani and Papasakellariou teachings are analogous art because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skill in the art to integrate the channel estimation for communication system using weighted estimates based on pilot data and information data disclosed by Papasakellariou with the enhanced path searcher disclosed by Bejjani. The suggestion/motivation for doing so would have been to improve the accuracy of the channel estimate using both pilot data and information data (Papasakellariou column 1 line 66 to column 2 line 17). Therefore, it would have been obvious to combine Bejjani and Papasakellariou to obtain the invention as specified in claim 18.

As per claim 23 Bejjani discloses claim 21. Bejjani doesn't disclose a tentative data decision information symbol generating part configured to compensate for the channel variation in accordance with a result of a first channel estimation and to

generate tentative data decision information symbols from the compensated information symbols; and a channel estimation part configured to generate an information symbol that is devoid of modulation components using tentative data decision information symbols and to implement a second channel estimation using the pilot symbols and information symbols. Papasakellariou discloses a tentative data decision information symbol generating part configured to compensate for the channel variation in accordance with a result of a first channel estimation and to generate tentative data decision information symbols from the compensated information symbols (figure 3 block 34 column 9 lines 23-29); and a channel estimation part configured to generate an information symbol that is devoid of modulation components using tentative data decision information symbols and to implement a second channel estimation using the pilot symbols and information symbols (figure 3 block 34 column 9 lines 61-66). Bejjani and Papasakellariou teachings are analogous art because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skill in the art to integrate the channel estimation for communication system using weighted estimates based on pilot data and information data disclosed by Papasakellariou with the enhanced path searcher disclosed by Bejjani. The suggestion/motivation for doing so would have been to improve the accuracy of the channel estimate using both pilot data and information data (Papasakellariou column 1 line 66 to column 2 line 17). Therefore, it would have been obvious to combine Bejjani and Papasakellariou to obtain the invention as specified in claim 23.

Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Papasakellariou (US 6700919) in view of Sutton (US 6721299). Papasakellariou discloses a communication device comprising a channel estimation part configured to carry out at least one of channel estimation using pilot symbols of a known phase included in a signal received via a multipath propagation path and information symbols (figure 2 block 26 and figure 3 column 6 line 54 to column 7 line 34); and a feedback part configured to feed back the information symbols (figure 3 blocks 42a and 42b column 8 line 43 to column 9 line 6 and figure 4 block 62 column 10 line 60 to column 11 line 13), wherein the channel estimation part recursively implements the channel estimation by repeating processes using information symbols decoded after channel estimation and the pilot symbols and implementing a channel estimation using the information symbols fed back via the feedback part in accordance with a timing detected in the pilot symbols (figure 3 blocks 42a and 42b column 8 line 43 to column 9 line 6 and figure 4 block 62 column 10 line 60 to column 11 line 13). Papasakellariou doesn't disclose a path search part configured to carry out at least one of a path search using pilot symbols of a known phase included in a signal received via a multipath propagation path and information symbols; and a feedback part configured to feed back the information symbols, where the path search part recursively implements the path search by repeating processes of implementing a path search using information symbols decoded and the pilot symbols and fed back via the feedback part in accordance with a timing detected in the path search and the pilot symbols. Sutton discloses a communication device comprising a path search part configured to carry out

at least one of a path search using pilot symbols of a known phase included in a signal received via a multipath propagation path and information symbols (figure 1 column 3 line 37 to column 5 line 7); and a feedback part configured to feed back the information symbols (figure 1blocks 16 and 18 column 4 line 12 to column 5 line 7), where the path search part recursively implements the path search by repeating processes of implementing a path search using information symbols decoded and the pilot symbols and fed back via the feedback part in accordance with a timing detected in the path search and the pilot symbols (figure 1blocks 16 and 18 column 4 line 12 to column 5 line 7). Papasakellariou and Sutton teachings are analogous art because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skill in the art to integrate the path search structure disclosed by Sutton with the channel estimation disclosed by Papasakellariou. The suggestion/motivation for doing so would have been to minimize the total time for acquisition (Sutton column 2 lines 8-12). Therefore, it would have been obvious to combine Papasakellariou and Sutton to obtain the invention as specified in claim 36.

Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bejjani (US 6430166) as applied to claim 21 above, in view of Papasakellariou (US 6700919) and further in view of Sutton (US 6721299). Bejjani discloses claim 21. Bejjani doesn't disclose that the second channel estimation part recursively implements a path search and a channel estimation by repeating processes of implementing a second channel estimation that estimates a channel variation by using information symbols derived from a signal, demodulated after a first channel estimation of the first channel estimation step

part according to the timings detected in a second path search step of the second path search part and the pilot symbols and implementing the second channel estimation step using information symbols fed back in accordance with the timing detected in the second path search step and the pilot symbols. Papasakellariou discloses that the channel estimation part recursively implements a channel estimation by repeating processes of implementing a second channel estimation that estimates a channel variation by using information symbols derived from a signal, demodulated after a first channel estimation of the first channel estimation step part and implementing the second channel estimation step using information symbols fed back (figure 3 blocks 42a and 42b column 8 line 43 to column 9 line 6 and figure 4 block 62 column 10 line 60 to column 11 line 13). Sutton discloses that recursively implements a path search by repeating processes using information symbols derived from a signal, according to the timings detected in the path search part and the pilot symbols and using information symbols fed back in path search step and the pilot symbols. (figure 1blocks 16 and 18 column 4 line 12 to column 5 line 7). Bejjani, Papasakellariou and Sutton teachings are analogous art because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skill in the art to integrate the path search structure disclosed by Sutton with the channel estimation disclosed by Papasakellariou. The suggestion/motivation for doing so would have been to minimize the total time for acquisition (Sutton column 2 lines 8-12); and to improve the accuracy of the channel estimate using both pilot data and information data (Papasakellariou

column 1 line 66 to column 2 line 17). Therefore, it would have been obvious to combine Bejjani, Papasakellariou and Sutton to obtain the invention as specified in claim 31.

Conclusion

Kubo (JP 2001053644 A) also discloses a decision feedback type searcher using pilot and information signals equivalent to the searcher claimed in the present invention with an earlier filing date, but with a later publication date.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan A. Torres whose telephone number is (571) 272-3119. The examiner can normally be reached on Monday-Friday 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Juan Alberto Torres

06-13-2005

MOHAMMED GHAYOUR
SUPERVISORY PATENT EXAMINER